Naval Air Technical Data & Engineering Service Command (NATEC)

Technical Services Modeling

NATEC

- **<u>Mission</u>:** Increase combat effectiveness by providing cost-effective engineering technical services and technical data to the Naval Aviation community.
- **<u>Vision</u>:** To be the provider of choice for state of the art technical data products and the preferred acquisition agent for engineering technical services in support of Naval Aviation aircraft, weapons systems and support equipment.

Why Modeling?

- CNO directed
- Make better decisions to support cost-wise readiness
- Predict outcomes and impacts

- "…We must improve our use of modeling, develop and improve output metrics to better define our requirements and resource needs, and instill a culture of improved productivity in everything we do."

Plotting our Track – CNO Leadership Guidance for 2004

Modeling/Analysis Strategy

- Utilize proven and accepted methodologies
- Start small and apply successes to increasingly larger applications
- Identify programs that will most quickly demonstrate the interaction between technical services and other training sources
- Analyze/model programs that cross Navy and Marine Corps lines and are here to stay

NATEC Approach

- F-18 (technical services)
  - Core program
  - All NATEC customers (USMC/USN/Active/Reserve)
- SE (training)
  - Widely used
  - Significant amount of training
- E-2 (data analysis, basing and personnel impacts)
  - Detailed exploratory data analysis
    - ID drivers and key variables
    - ID impacts and outcomes

NATEC Approach (cont'd)

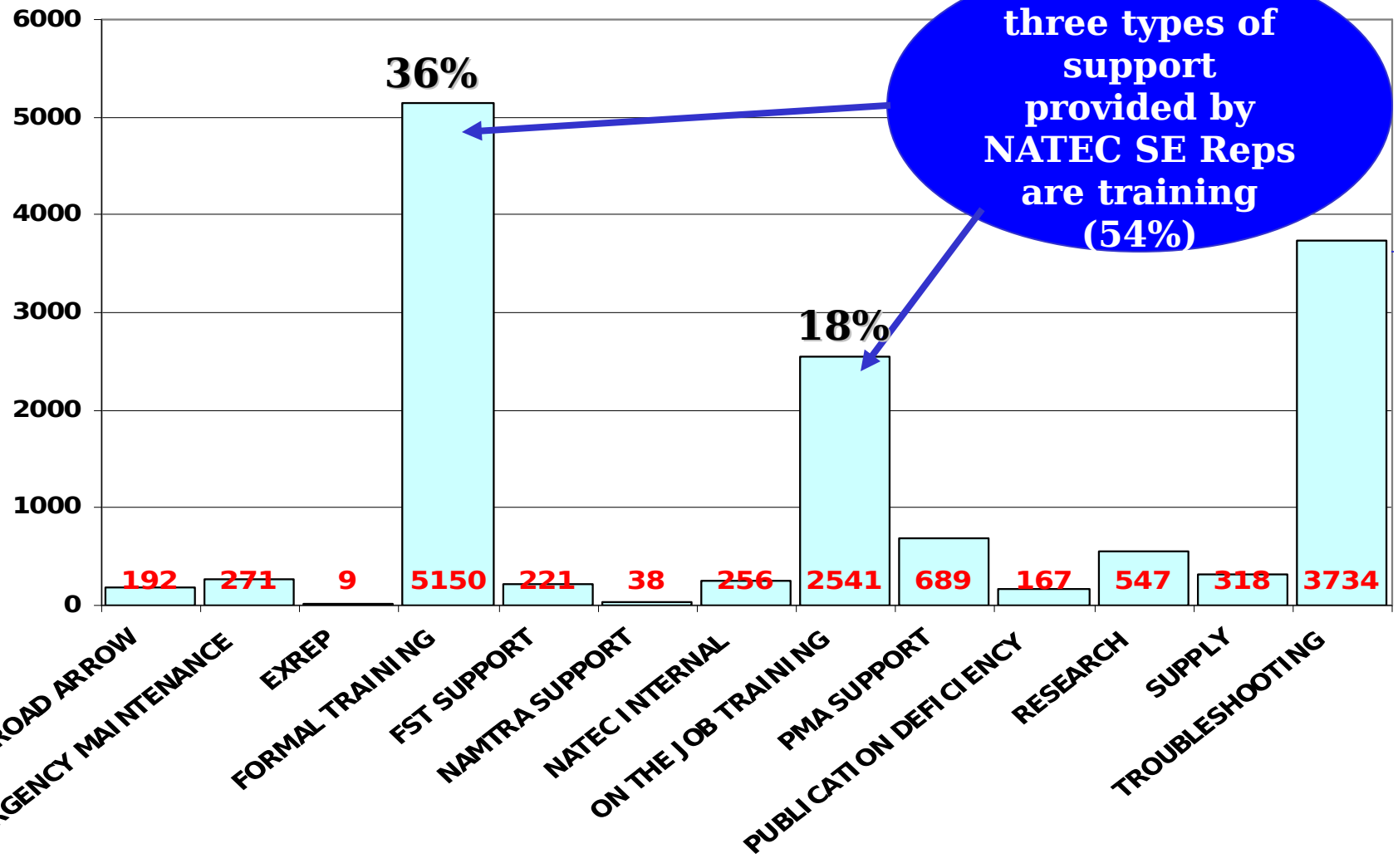
- Technology enhancement
  - How do changes in Tech Data distribution impact training and ETS requirements?
  - Impact on training requirements, effectiveness and cost?
  - JDSR/JATDI (IT improves capabilities)
- Business Operations Assessment
  - Comprehensive analysis of workforce and requirements
  - Examine business processes

Why SE?

- AS Rating nearly a closed loop community
- Similarity to IT rating analysis already completed
- Common equipment
  - part of the inventory for many years
  - limited configuration changes
    - Mobile Power Units (NC-8/10)
    - Tow Tractors
    - T-5/7 Hydraulic Test Stands
- Already working with CNATT on SE Training evaluation/improvements
  - Evaluation processes
  - Feedback system
- Significant amount of SE training provided by ETS

NATEC SE Support (Hours)

(10/01/2003-03/31/2004)



System Dynamics

- High-level computer simulation models for complex systems/processes
  - Human systems
  - Business systems
- Identifies feedback, delay and structure of complex systems/processes
- COTS - VENSIM® modeling software
    - Dr. Jay Forrester, MIT Sloan School of Management

Goals

- Coordinated approach to modeling and analyzing aviation technical services requirements and capabilities
- Strengthen Naval Aviation maintenance training
  - Establish solid feedback loops among ALL players
- Optimize training efficiency (systems approach)
  - Consistency
  - Cost effective training reinforcement
  - More educated resourcing decisions (cost-wise readiness
- Measure the impact on IA
- Quantify OJT benefits and requirements